

TikTok as an Informal Learning Environment in the Context of LGBTQ+ Topics

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ABSTRACT

Social media platforms have long been important for the LGBTQ+ community to come together, share information, and engage in activism; in this way, social media platforms can act as powerful informal learning environments for their users. This study aimed to explore how users can learn about topics and issues relating to the LGBTQ+ community through TikTok, which has become one of the most popular smartphone applications in the world since its release in 2016. This is an area that has not yet been explored; to investigate this, nine TikTok users completed a diary and interviews focusing on their experience seeing LGBTQ+ content on TikTok. The findings revealed that two forms of learning take place on TikTok. The first is learning about LGBTQ+ topics unrelated to oneself and the second is learning about LGBTQ+ topics which one can relate to, promoting identity work. The ways in which TikTok's unique affordances influence its effectiveness as an informal learning environment were revealed; in particular, how TikTok's algorithm can both facilitate and limit learning about LGBTQ+ topics. These are novel findings which contribute to the currently limited literature on TikTok as a platform and the experience of using TikTok, as well as how social media platforms more broadly can act as informal learning environments. The findings also raise some interesting HCI questions and design challenges.

Author Keywords

TikTok; LGBTQ; learning; informal learning environment; identity work; digital activism; algorithm; social media

ACM Classification Keywords

Human-centered computing → Collaborative and social computing → Empirical studies in collaborative and social computing

MSc Contribution Type

Empirical

1. INTRODUCTION

The video-sharing app TikTok has quickly become one of the most popular smartphone applications in the world since its release in 2016, with 689 million monthly users across the globe currently [1]. By allowing users to create and share their own short video content, TikTok has become a platform for self-expression and entertainment as well as for activism and education.

Social media has changed the way individuals can learn about current social topics and issues. These platforms allow users to share authentic first-hand accounts, communicate information which traditional media omits, engage in open dialog, and allow messages to quickly be heard by people across the globe [2]. The use of these platforms in this way can be described as digital activism, defined as a form of activism which utilises the Internet and digital media [3]. Digital activism has been key for the progression of many social movements in recent years, including the Black Lives Matter movement [2], the Me Too movement [4], and the movement for the rights and acceptance into society of the LGBTQ+ community [5].

The internet has been described as a place where members of the LGBTQ+ community can come together, share their experiences, give and receive advice, and discuss the issues affecting them [6]. As stated, social media platforms have also been important tools for the LGBTQ+ community to drive the movement for their rights and acceptance. Members of the LGBTQ+ community and their allies use these platforms to engage in a broad range of activism techniques, including circulating information and news, debating and discussing different topics, connecting with those of similar views, raising awareness on current issues, educating others, and promoting creative content created by and/or celebrating the LGBTQ+ community [5]. This spans across popular social media sites such as Twitter, Facebook, Instagram, Tumblr, and more recently, TikTok.

As mentioned, social media platforms are often used to educate individuals by sharing information about the experiences of and topics and current issues relating to the LGBTQ+ community, and to facilitate discussions around these topics. In this way, social media websites can act as powerful informal learning environments for their users, both for the education of those who do not identify as part of the LGBTQ+ community, as well as for the education and additionally the identity formation of those who do [7]. Here, an informal learning environment is defined as a place where learning occurs outside the context of formal education settings [8].

As a relatively new platform, the ways in which TikTok can act as an informal learning environment in this way is less well explored. This is an area of interest firstly because many of TikTok's technical affordances are unique compared to other popular social media platforms; thus, one can speculate

that the ways in which users educate and learn on TikTok will differ from other social media platforms. Furthermore, individuals perceive social media platforms differently based on these affordances or the possibilities the platform offers them [9]. These perceptions further impact how individuals use and share information about themselves on a particular social media platform [9], further suggesting that the ways in and extent to which users educate and learn about LGBTQ+ topics on TikTok may be unique.

Thus, the aim of this study will be to explore this area further and answer the research question: ‘How does TikTok act as an informal learning environment for its users to educate others and learn about topics relating to the LGBTQ+ community?’.

2. LITERATURE REVIEW

2.1 TikTok’s For You Page and Algorithm

TikTok is a social networking service, typically accessed as a smartphone application, which allows users to create, share and watch short videos (between 15 seconds and three minutes long). The platform is unique in that its use is based around the For You page (FYP), the main page for watching content. This page is unique compared to the main pages of other social networking sites (such as Instagram, Twitter, Facebook and Tumblr) because the user has no control over which videos will appear on their page [10]. Whilst on the aforementioned sites, users have a degree of control over the content they see by deciding on which users to follow, on TikTok’s FYP the content shown to a user is solely based on an algorithm [10]. Furthermore, unlike the recommendation algorithms which Facebook, Instagram and YouTube do also employ, which generate video feeds based on that accounts that a user follows, TikTok’s algorithm decides what a user will want to watch based on their viewing activity and interactions (for example viewing time, likes, comments and shares) on the app [11], presenting them with a curated feed based on this activity.

TikTok’s use of its algorithm and the FYP also means that the discoverability of the content that users create is increased compared to other social networking sites, making it easier than ever for anyone to go viral, even those users with little to no following on the platform. Although it is not known exactly how the FYP works, it is thought that videos created by users are initially shown to a smaller group of users who are likely to interact with the content; if they do engage with the video, it is then presented on the FYPs of more users [11, 12]. Thus, there is the potential for any video that any user creates and shares to be quickly shown to a large audience on the app.

Research has found that users are aware of this algorithm and behave in a way on the app to try to use it to their advantage [11, 13]. This can apply to creating content; for example, users report using trending sounds in their videos, using hashtags in their captions, and creating content they think that other users will interact with, with the idea that this

increases the chance that their video ends up on a greater number of users’ FYPs [11]. This also applies to curating their own feed; users have reported consciously engaging with TikTok content that they enjoy or are interested in to influence the algorithm to show them more similar content [13].

2.2 TikTok’s Affordances and Activism

As well as its FYP and algorithm, TikTok is also a unique social media platform in the ways in which it allows users to create content and communicate; in particular, TikTok’s technical affordances allow users to create collaborative content and communicate in a greater number of ways than on other platforms. This has been highlighted by research which has investigated how TikTok is used to engage in activism, including the education and discussions around social and political topics. Although no such work has focus on this area in relation to LGBTQ+ topics, this research highlights how TikTok’s technical affordances not only allow users to spread a message quickly and easily to a large audience, but they allow users to do so in ways which are unique to the platform.

Two interesting features here are TikTok’s ‘stitch’ and duet’ features. The ‘stitch’ feature allows users to use a clip from another user’s TikTok video in their own and is often used to give a response to the video. The ‘duet’ feature allows users to record their own TikTok video alongside another user’s video, with the two appearing side-by side on the screen. This again is often used to create a response to the original video, or to create a coordinated or comparison video [10].

These ‘stitch’ and ‘duet’ features provide the opportunity for users to make collaborative content, allowing users to engage in discussions which can feel more personal. For example, Serrano et al. [14] studied TikTok users’ discussions about US politics by analysing videos which included either #democrat or #republican using computer vision, natural language processing, and statistical techniques, as well as through content analysis. They found that political discussion on TikTok is more interactive than on other social media platforms as it allows users combine multiple communication channels to convey their message. On platforms such as Twitter and Instagram, the highest communication level in response to a posted element is written user comments. On TikTok however, whilst users do often leave comments in response to videos, there is also a level beyond this in which users can respond to a video by ‘duetting’ it as mentioned. Serrano et al. comment that a ‘duet’ draws more similarities with a face-to-face interaction rather than with a written response, making the interaction between users feel more personal.

TikTok’s technical affordances allow those engaging in activism on the platform to collaborate in other ways too, for example making collective content through the use of sound. Hautea et al. [15] explored how TikTok users engage in climate activism on the platform by conducting a multimodal analysis of a sample of popular climate change-hash tagged

videos, finding that TikTok allows users to easily spread a climate message due to various factors, one being by allowing users to collaborate on or create collective content, for example by using the sound clip of another user's video in their own. In this way, TikTok sounds can become popular 'audio memes' which are used by users across the platform.

Furthermore, TikTok allows users to use and manipulate this sound in their videos in a unique way to portray their own activism message. For example, work by Subramanian [16] discusses how Bahujan girls, of the lower three castes in India, use TikTok as a platform for anti-caste activism. They discuss the popularity with the girls of creating videos lip-syncing to Bollywood songs. Whilst the songs are not anti-caste themselves, the girls accompany the audio with anti-caste visuals to transform the message of the lyrics. This highlights how TikTok allows users to portray and spread a message in ways which are unique and may potentially be more memorable and/or consumable for the platform's typically younger audience.

As mentioned previously, TikTok's affordances can allow content to quickly reach a large number of users, and this has also been highlighted through research into activism on the platform. For example, Hautea et al. [15] found that TikTok provides climate activists with visibility through both its algorithm and the use of hashtags, as well as through editability which allows users to create and edit content easily. Similarly, Subramanian [16] discusses how Bahujan girls engaging in anti-caste activism will usually tag their videos with a variety of hashtags often relating to the celebration of the civil rights activist Ambedkar Jayanti and messages of Bahujan pride.

Finally, research has also explored the different types of messages being shared by activists on the platform and the running themes across these messages. For example, the multimodal analysis of Hautea et al. [14] identified the different types of messages being shared by users engaging in climate activism on TikTok. This included earnest messages promoting climate activism, messages using humour or satire to promote awareness, messages which instructed or informed about climate, and messages emphasising natural beauty. Overall, some of the affective themes emerging from climate related TikToks included users linking and/or conflating climate issues with other environmental issues, assigning generational responsibility for climate change, and demonstrating helplessness.

Whilst the research covered thus far provides a brilliant insight into how TikTok's unique technical affordances are used to engage in activism and education relating to social and political topics and issues, the work does not explore the experience of the users in these contexts; neither the experience of educating nor learning about such topics on TikTok, nor how effective the use of the platform in this way is. The current study will aim to explore the experience of the user when educating and learning through TikTok and the effectiveness of using TikTok in this way, in the context

of LGBTQ+ topics; a context not yet investigated in the literature.

2.3 LGBTQ+ on TikTok

Research has however been conducted which explores the experience of engaging with TikTok for users who identify as LGBTQ+. Although not specifically focusing just on LGBTQ+ activism or the learning about topics relating to the LGBTQ+ community, the work reveals some interesting findings in which participants not only describe their experience of using TikTok to educate others and raise awareness on topics, but also to learn new information about themselves, which has subsequently helped to them to further understand their own identities.

Simpson and Seamaan [13] interviewed 16 LGBTQ+ TikTok users to understand their engagements and encounters with the app, and in particular their experience with TikTok's algorithm, which has received criticism for moderating out LGBTQ+ creators and content from the FYP. Their research revealed a number of interesting findings. Firstly, the participants described seeking out or coming across LGBTQ+ related content, and engaging with this content, in order to manipulate TikTok's algorithm and be connected to more similar content through their FYP. This allowed them to find and interact with others who are similar to them. Participants described how this allowed them to engage in identity work; explaining how TikTok's algorithm created a space which helped them to learn about and embrace aspects of their identity that had previously been 'invisible'. In turn, they described creating content which allowed them to create visible representations of themselves in order to normalise and make visible different LGBTQ+ identities. In contrast, participants also reported that TikTok's algorithm sometimes transgressed and violated their identity. For example, some felt discomfort by TikTok 'working out' their LGBTQ+ identity. Furthermore, they felt that the FYP only represented certain types of LGBTQ+ identities, and that the appearance of unwanted content on their FYP which was at odds with their identity or beliefs felt violating.

Afsheen and Ahmed [17] carried out a study in which they interviewed five well-known transgender TikTok content creators from Pakistan, who all had upwards of tens of thousands of followers, about their experience of using the platform. Similarly to Simpson and Seamaan's [8] findings, their participants described how TikTok felt like a safe space for transgender individuals, and the perfect platform to have their voice heard. One participant described how transgender people have been neglected, humiliated, and mocked by the mainstream media in Pakistan, and that TikTok was the first platform which they felt they could come to as themselves and express themselves freely. The participants also discussed how they made videos discussing their gender identity, and that this was also met with a negative response from many users alongside the positive response from many others.

Looking on a greater scale, Sachs et al. [18] created a data visualisation of 3,337,925 TikTok videos from 2020 based on the songs used as their audio. This revealed a significant increase in the number of videos using ‘coming out’ TikTok audios, which users typically used to signal their gender identity or sexual orientation in a video, in the last three quarters of the year. This suggests an increase in gender identity and sexual orientation videos during this time. Sachs et al. suggest that users were publicly revealing these private aspects of themselves due to them becoming increasingly involved in online spaces such as TikTok in which they feel comfortable whilst social distancing.

The research discussed provides an interesting insight into the experiences of individuals in the LGBTQ+ when using TikTok, and how this experience is largely positive, although there are also some negative aspects too. The research highlights how those in the LGBTQ+ community use TikTok as a platform to express themselves and their identities freely. Interesting is the use of the platform to increase the visibility of different LGBTQ+ identities, and also to learn and engage in identity work. Clearly, one aspect of this experience is both educating and learning on the platform, although the studies mentioned did not explore this in particular detail. The current study will aim to explore this further, also including the experiences of learning that those who do not identify as part of the LGBTQ+ community have on TikTok.

2.4 The Current Study

The current study aims to extend and combine elements of the literature reviewed. Whilst work has explored the use of TikTok to engage with activism, education, and discussion around current topics, none yet has explored the experience of users when learning through TikTok. Furthermore, although the LGBTQ+ experience of using TikTok has been explored, none yet has focused specifically on learn about topics relating to the LGBTQ+ community through TikTok, including for those who don’t identify as a part of the LGBTQ+ community.

This could be a particularly interesting area to explore. As well as being novel, the literature reviewed has revealed not only the scale of engagement with content relating to current social topics on TikTok, but also how TikTok allows users to create and engage with this content in unique ways. Thus, this study aims to explore how TikTok can act as an informal learning environment in the context of LGBTQ+ topics and issues and the experience of TikTok users seeing and engaging with this content.

Due to the exploratory nature of this study, the methodology used will be a diary study followed by semi-structured interviews with participants who use TikTok and have an interest in topics relating to the LGBTQ+ community.

A diary study was chosen first to provide insights into participants’ typical TikTok viewing behaviours and experiences of engaging with LGBTQ+-related content on the app in their everyday lives. The diary study is a popular

methodology in the HCI field for gaining insights into user behaviour over medium-to-long periods of time [19] and has been used previously to successfully explore individuals’ video viewing habits, for example on-demand video viewing [20]. This methodology has also been used for exploring individuals’ social media usage, for example the type of content or messages they come across on social media [21] and the impact of social media use on well-being [22]. Furthermore, one study used a diary study methodology to explore the influence of traditional and social media use on knowledge of current affairs [23].

Next, semi-structured interviews [24] will be conducted to gain deeper insights into participants’ perceptions and experiences [23] when engaging with TikTok and in particular LGBTQ+-related content on TikTok, and to learn more about their diary entries [19]. This will follow similarly the approach used in the previously mentioned studies exploring the LGBTQ+ experience of using TikTok [13, 17]. It is hoped that by following the diary studies with semi-structured interviews, this will allow more in-depth but also holistic insights to be gained regarding participants’ engagement with LGBTQ+-related content on TikTok and their experience of TikTok acting as an informal learning environment in the context of these topics.

3. METHOD

The study used a mixed methods approach comprising of two parts. The first part was a diary study, combining a quantitative and qualitative diary study methodology as informed by the work of Rigby et al. [15]. The second part comprised of semi-structured interviews as used in the work of both Rigby et al. [15] and Simpson and Seaman [13].

3.1 Participants

Ten participants were recruited to take part through convenience sampling methods. The mean age of participants was 23.1 years old ($SD = 3.05$), and the range was 18 to 30 years old. All participants resided in the United Kingdom at the time of the study.

Initially, 15 individuals volunteered to take part in the study. However, five individuals never began the diary study nor took part in the interview. One participant did not complete the full 10 days of diary entries and did not take part in the interview. However, their completed diary entries were still included in the analysis. Thus, nine sets of completed diary entries and interviews, and one set of incomplete diary entries were included in the study.

To recruit participants, an advert was created which outlined the premise of the research and asked for participants to volunteer who were aged 18 years or older, who used TikTok on a daily basis, and who were interested in topics and issues relating to the LGBTQ+ community. This advert was forwarded on to friends and classmates of the researcher, and posted on the researcher’s personal LinkedIn, Facebook and Twitter pages, and as well on UCL’s Psychology Participant Pool portal.

Participants were offered a payment in the form of a £20 Amazon voucher in return for their participation. Participants were paid £1 of the voucher for each completed diary entry, and £10 of the voucher for participating in the interview. The study gained ethical approval from UCLIC.

3.2 Materials: Diary Study

Participants completed a digital diary in which they entered data into an online form on the platform REDCap. This could be accessed through any device with a web browser via a shareable link which was sent to participants by email. Participants accessed the diary through the same link each time. These diary entries were then stored securely on an Excel spreadsheet and Word document on OneDrive. This data was stored semi-anonymously; no personal identifiable data was stored other than a participant number which was used to link the data sets together.

The digital diary included prompts (see Appendix 1). The participants were first asked basic questions regarding their TikTok use that day, and then questions regarding any LGBTQ+-related content they saw, for example the type of content they saw, the communication forms and techniques used, and their experience of viewing these TikToks. The prompts provided for the diary entries were based on those used by Rigby et al. [20] as well as by some of the codes used in content analysis studies of TikTok [15, 25] as these allowed insights regarding the types of content that participants are viewing and methods used on TikTok to educate to be gained. Due to a lack of research which utilises the diary study methodology to investigate TikTok use in general, or more specifically relating to the LGBTQ+ community or as an informal learning environment, some prompts were also generated by the researcher.

After the first few participants had completed some of their diary entries, the researcher noticed that some participants had referenced how watching LGBTQ+ TikToks had an influence on their thinking or mood. So, the prompt 'Did watching TikToks relating to LGBTQ+ topics influence your thoughts, mood or behaviour today? If yes, how so?' was added later on to encourage other participants to also consider this influence.

3.2 Materials: Semi Structured Interviews

Participants were interviewed over Microsoft Teams. and these interviews audio recorded. The interview recordings were stored on Microsoft Teams and the transcriptions of these recordings stored securely on OneDrive. Again, this data was stored semi-anonymously; no personal identifiable data was stored other than a participant number which was used to link the data sets together.

These interviews were semi-structured, based on an initial pre-defined script (see Appendix 2). These questions explored participants' TikTok use and experience of using TikTok more generally, as well as their experience viewing content on TikTok on topics relating to the LGBTQ+ community or created by LGBTQ+ creators. In particular, the interviews investigated how participants experienced and

viewed TikTok as a platform for learning and/or educating about these topics. These questions also took into consideration participants' diary entries and some tapped into certain themes or topics to gain clarity and/or further insights. Again, due to a lack of research into this topic area the pre-defined questions were generated by the researcher.

In light of the first interview conducted, the researcher altered the interview script and added in more questions which would tap further into some of the topics covered, as well as into things that they felt had been missed in hindsight. These in particular focused on TikTok as a platform and how well it allows for or facilitates learning around LGBTQ+ topics, as this was felt to be missed in the initial interview. Questions around learning about LGBTQ+ topics also now included understanding LGBTQ+ experiences through TikTok, which was something referenced a lot in the initial interview answers. Finally, questions around particularly memorable or informative LGBTQ+ TikTok content creators were also included.

3.3 Procedure

Once the participants were recruited, they were emailed an information sheet and consent form (see Appendix 3) to read, sign and return via email. Once done, participants were allocated a participant number and sent the link to complete the diary study each day. Participants were instructed to use the TikTok app as they normally would and complete the diary through the same link every day for 10 days, entering their participant number at the top of each entry. As there were some issues with participants remembering to fill out the diary each day, email reminders for filling out the diary were sent to participants on a daily basis.

Once the participants completed the diary entries, each participant was interviewed remotely for around 30 minutes over Microsoft Teams. Following on from this, participants were debriefed about the study, and sent their payment of a £20 Amazon voucher via email. The interviews were then transcribed by the researcher and the recordings deleted.

The diary entries and interview scripts were then analysed using an inductive thematic analysis technique [25] and the main insights collected and summarised. Quantitative insights from the diary entries were also collected and summarised.

4. RESULTS

The results are structured in five parts, drawing data from both the diary entries and semi-structured interviews.

The first part summarises the quantitative findings from the diary entries.

The next two parts (*Learning About LGBTQ+ Topics* and *Effectiveness of Learning Through TikTok*) report on participants' experiences with learning about LGBTQ+ topics and experiences generally through TikTok, and how TikTok as a platform helps and hinders this.

The subsequent two parts (*Relating to LGBTQ+ Content and Identity Work* and *TikTok as a Safe Space*) report on participants' experiences with learning about LGBTQ+ topics and experience which relate to their own identity through TikTok, and again how TikTok helps and hinders this learning too.

Each of these parts is described as per the main themes identified through the thematic analysis. Participant numbers are denoted by 'P(N)', a diary entry quote is indicated by (D), and an interview quote is denoted by 'I'. For example, (P1, D) would indicate a diary entry quote from participant 1.

4.1 Diary Study Insights

A total of 93 diary entries were completed by participants. Of these entries, 24 diary entries (26%) reported no TikTok use that day, leaving 69 diary entries (74%) in which participants reported using TikTok that day. Of these remaining diary entries, 22 (32% of remaining entries) reported seeing no LGBTQ+ content on TikTok that day. This leaves 47 diary entries (68% of remaining entries) of the remaining entries in which participants reported viewing LGBTQ+ content on TikTok that day

This section reports on the quantitative insights gained from the diary entries regarding participants' TikTok usage habits. All 69 diary entries which reported using TikTok that day were included in this analysis. Diary entries which did not report TikTok use that day were excluded from the analysis.

Duration

Participants spent an average of 56.38 minutes using TikTok each day (SD = 42.26), with a range of 5 to 240 minutes spent on TikTok each day.

Device

Participants accessed TikTok through a smartphone on all days.

Location

Fifty-four diary entries (78%) reported using TikTok at home: Four entries (6%) reported using TikTok in the living room, 3 entries (4%) reported using it in the garden, 18 entries (26%) reported using it in the bedroom and 1 entry (1%) reported using it in the bathroom (note: the remaining entries did not specify where in the home TikTok was used). Two diary entries (3%) reported using TikTok at a friend's house and one (1%) at a partner's house. One diary entry (1%) reported using TikTok at a shopping centre. Two diary entries (3%) reported using it at work. Finally, twelve diary entries (17%) reported using TikTok whilst on public transport. (Note: some diary entries reported more than one location of use of TikTok).

Company

Sixty-eight diary entries (99%) reported using TikTok alone. Two diary entries (3%) reported using it with a friend and two reported using it with a partner. Finally, two diary entries (3%) reported using it with a parent. (Note: some diary entries reported more than one type of company when watching TikTok).

4.2 Learning About LGBTQ+ Topics

Participants' described the main learnings relating to the LGBTQ+ community that they have taken from TikTok.

Learning About LGBTQ+ Experiences

Participants described how TikTok users in general, and in this instance those who identify as a part of the LGBTQ+ community, often share the intricacies of their lives on TikTok. Thus, the participants all described learning about the personal experiences of members of the LGBTQ+ community through TikTok. Participants felt as though they had gained a greater awareness of LGBTQ+ individuals' everyday lives through using TikTok.

'And you know, also because it is kind of more of an insight into people's lives and people talk more about their personal lives on there, it kind of gives you more of an awareness of what goes on in their everyday lives.' (P2, I)

Participants all viewed this learning about LGBTQ+ topics through personal experiences and daily lives being shared as the main form of LGBTQ+ learning that takes place through TikTok. This contrasts with other forms of learning, for example simply learning facts or about history, which participants felt took place less on TikTok.

'Yeah, do I think, I think the stuff I've learnt on TikTok tends to be people's anecdotal experiences, viewpoints, rather than like factual stuff that happens in the time in the history timeline of like gay rights.' (P12, I)

Some participants discussed not knowing any or many individuals from the LGBTQ+ community in their own personal lives. Thus, by watching TikTok videos created by LGBTQ+ individuals, these participants were able to learn about the lives and experiences of those which they had previously not had an insight to.

'I don't really have a lot of gay friends and it helped me learn a bit more about their day-to-day in a funny way.' (P5, D)

One participant described how they come from a conservative country in which members of the LGBTQ+ are not widely accepted into society. Thus, they previously had little exposure to openly LGBTQ+ individuals. They describe how social media more broadly, and in particular TikTok, allows them to connect with those they wouldn't normally be able to, and thus gain a new understanding into some of their experiences. They expressed how this created a shift in their mindset in regard to LGBTQ+ topics.

'Because I come from a place where people don't really have an open mind, so basically all the knowledge I have about the topic [LGBTQ+ topics] comes from social media. It helps me to better understand people I've never interacted with.' (P5, D)

'I think it's opened my eyes. I come from a very closed-minded part of the world. It's not a topic that is really popular in my country... So you change your mindset, and

from all those videos [on TikTok] you also get tiny things that change your mindset completely. Like when you see some of these important videos that I told you about and they talk about coming out of the closet or how they are discriminated against or how religion affects them. All this stuff like gets into your brain and then you change your complete mindset about the whole topic itself. So I think what I've learned.' (P5, I)

Other participants described being a part of the LGBTQ+ community themselves or knowing many members of the LGBTQ+ community in their personal lives. However, they still describe how TikTok allows them to connect with and learn about other LGBTQ+ individuals, for example those of a different demographic, for example race or socioeconomic background, or of an LGBTQ+ identity that is different from their own, or that they are not as familiar with.

'So obviously most of my friends are like, I have like quite a lot of gay friends, but most of them are white and they're from, you know, they're kind of medium socioeconomic backgrounds, whereas you hear from a lot of different LGBTQ people [on TikTok]. So like people of colour or like, and I don't know, just like a much wider range of people like within the community that you wouldn't have come across.' (P3, I)

'It's really interesting following people whose experiences are different from mine, like I am a cis-gender bisexual woman. So I can't know what it's like to be like a transgender gay man, like that's not my experience. So it's interesting to watch those kind of videos and learn about their lives.' (P4, I)

Furthermore, participants described how hearing accounts of LGBTQ+ discrimination through TikTok acted as a reminder to them that these issues are still very much commonplace in today's world.

'I think sometimes they're just quite shocking... Obviously where we live it's quite like you know, quite progressive, people tend to be quite like socially liberal. It's easy to kind of forget, the kind of prejudice that people actually experience all the time, whereas I think you hear a lot of experiences on TikTok, so then that's quite upsetting to see.' (P3, I)

Participants also reported learning about some of the complex issues faced by some LGBTQ+ individuals, for example learning about intersectionality.

'I learned about the importance and complexity of intersectionality, as the issues faced are different, but also that it can be very isolating to not feel like you are part of the communities that you are, and as such it is so important not just to focus on the issues of groups as a whole such as the entire LGBTQ+ community, but how issues of race and sexuality intersect and the unique issues that may be faced at this intersection.' (P2, D)

Learning About Gender

Participants described how the LGBTQ+ topic they learnt most about through TikTok was gender. Participants described how this was an LGBTQ+ topic that they felt less knowledgeable about, as they knew less people in their personal lives who are transgender, non-binary or of another non-cis-gender identity. By seeing these identities on TikTok, participants described feeling more open-minded when it comes to gender.

'Yeah, I definitely think so [I have learnt from TikTok]. I think, especially in terms of gender and stuff like that. So like I didn't really know in my actual life any well, no one, I don't know any trans people well, and not really that many non-binary people. I don't think so. Like on TikTok I've heard those kind of experiences of those kind of people.' (P3, I)

'Yeah I felt like that was really informational. I felt a bit more open minded regarding the subject [gender]. Yeah, and. I don't know. Overall I feel like it's made me a lot more open minded and a lot less likely to judge' (P6, I)

Participants described how some transgender content creators share their transitioning process on TikTok. Participants describe learning a lot about the transitioning process, again as something they had not been exposed to in their own lives.

'A creator had made a compilation of clips of them throughout their journey of taking testosterone. It was really interesting to see how they had changed over a period of time. I haven't known anyone who has been through this in real life, so it was very new to me.' (P3, D)

The other topic relating to gender that participants described learning the most about was understanding and using pronouns correctly. In particular, participants described feeling better informed on how to address individuals of different gender identities correctly thanks to TikTok.

'Like also about gender identity. Uhm, [I learnt] how to talk to someone that maybe does not identify with the gender she or he had when they were born.' (P5, I)

Participants described learning about different individuals' experiences with different pronouns and also how these would be used in everyday conversations.

'[I saw] non-binary creators talking about how they feel when different pronouns are used, e.g. if they go by she/they, how they'd want those pronouns to be used... I'd seen a lot of TikToks where people use multiple pronouns but wasn't sure what this would look like in practice. It was interesting to actually see this in practice.' (P3, D)

Thus, participants reported how they would keep this information in mind and carry it over into their own lives.

'I definitely thought more about how I use pronouns when talking about other people and how important it is to make an effort with people's chosen pronouns' (P3, D)

4.3 Effectiveness of Learning Through TikTok

Participants shared their perspectives on how effectively TikTok as a platform acts as an informal learning environment for LGBTQ+ topics. Participants considered both the positives and negatives of the platform and its affordances for this purpose. Overall, participants felt that TikTok was a valuable platform for learning about the LGBTQ+ community.

TikTok Content Creators

Participants described how the types of users who make LGBTQ+ content, and the amount of content that they make, facilitates education and learning around LGBTQ+ topics on TikTok. Participants described the large volume of LGBTQ+ content on TikTok from which users can learn. They attributed this volume to the ease at which users can create content, as well as to LGBTQ+ users viewing TikTok as a safe space to post content.

'So I think yes [TikTok is good for educating and learning] and I think that there are a few reasons for that. So the first is that there's an abundance of creators on TikTok. I think a lot of queer people see TikTok as sort of a safer space than maybe Instagram to post videos and content. And it is so easy to do.' (P1, I)

Participants also commented that they see more LGBTQ+ content on TikTok because they are exposed to more LGBTQ+ creators than on other platforms. Thus, participants described learning more about LGBTQ+ topics through TikTok than on other platforms.

'Well [I learn] a lot more because I don't really follow any LGBT content on the other platforms, so it's yeah, it's just mainly just TikTok.' (P6, I)

Participants described this as being because on other social media platforms such as Instagram and Facebook, the focus is on people whom they know in real life. One participant commented that although they do have LGBTQ+ friends on these platforms, they would be unlikely to post content with an educational focus or sharing personal experiences on these platforms in the way that TikTok users do.

'So I wouldn't say I see anywhere near as much on Instagram, especially because I mostly follow my friends. And you know that's dependent on first not even whether your friends are LGBTQ but also like whether they're gonna post that on Instagram, I think people just tend to post like what they're doing with their life.' (P3, I)

Next, participants described how the fact that users are often educating through sharing personal experiences is beneficial for learning because it feels more truthful and less debateable.

'I think it's quite good [for learning] because I mean people are just talking about their actual lives. Like it's not a debatable kind of. It's not opinions, it's just them.' (P3, I)

Furthermore, participants described how 'normal' people are the ones creating this content on TikTok as opposed to influencers or celebrities who may have more of a presence on other social media sites. They described how makes the creators and their content feel more relatable and genuine. Thus, participants described being more receptive to the messages being shared on TikTok surrounding LGBTQ+ topics, which in turn is beneficial for learning.

'And also it's a normal kind of, like everyday people have created this content not like celebrities or influencers where you think that they're made to kind of like actually say a particular thing and I think that like makes a real difference. As well as you know it's coming from someone genuine, or someone who's like kind of been in this situation and experienced this.' (P9, I)

Due to 'normal' people being the ones creating content on TikTok, participants also described how content creators would be more likely to respond to comments or questions on their videos about LGBTQ+ topics than they may be on other platforms, on which those who are posting educational LGBTQ+ content may be more likely celebrities or charities who won't respond to comments. Participants described how this enables discussions between content creators and other users, thus promoting learning around LGBTQ+ topics on the platform.

'And most of the time, when people post like educational TikToks, content creators tend to reply to them or do another video replying to their questions. Whereas when you see sort of like a mass post shared on Instagram, if someone has questions about why this post has been shared or what the content in it actually means, it's quite difficult for them to be able to engage with the people who made the content, given that it's usually like a charity or like a news site for a magazine that is likely to be less responsive online, so I think like given those reasons TikTok is a pretty good place for learning about LGBTQ+ issues.' (P1, I)

TikTok's FYP and Algorithm: Positives

Participants described how TikTok's FYP and algorithm can facilitate education and learning around LGBTQ+ topics for users. For example, participants described how using the FYP makes learning easy and low effort, because the content comes to them, rather than them having to actively seek out LGBTQ+ content as they would have to other social media platforms.

'I think also as soon as you start engaging with it then you don't have to... It's not like a high effort thing. You don't have to seek it out if it's on your For You page, it's gonna come up and you can just literally just like take it in. You don't have to you know say like I'm going to go and read a book or I'm gonna put loads of effort into finding all

these like resources on Instagram or Twitter or whatever, it's just kind of there so I think it's quite easy and like it's not very censored at all.' (P3, I)

As well as being beneficial for the learner, participants also described how the FYP and algorithm make TikTok a good platform for those who want to spread a message regarding or educating others about LGBTQ+ topics. Participants describe how TikTok's FYP gives a platform to everyone, whereas on other social media sites these individuals would need to build up a significant following to have such a platform.

'It's way more [learning than on other platforms]. Because as I told you on Instagram or YouTube, I watch a lot of mainstream stuff. So, I think TikTok allows people that maybe are not famous or don't have a voice that is going to be heard on other platforms [to have a voice], so it's way more [learning] on TikTok.' (P5, I)

'I think that it sort of gives a platform to everyone and anyone, especially like with the way that you know you can post something out there and it can appear on anyone's feed. I think that um, obviously their message can get to a lot of people.' (P2, I)

Thus, participants describe how on TikTok there is the possibility for any video to reach a large audience, or even go viral. Thus, those who wish to educate or spread a message will potentially be able to reach a much wider audience than on other platforms.

'And also I feel like it's easier for things to go viral on there. So like it also helps you like spread the message and raise awareness on a much larger scale.' (P9, I)

Finally, participants also described how creators are able to achieve this much more easily than on other platforms. Thus, participants viewed TikTok as a particularly useful platform for those who wanted to use social media websites for this purpose.

'Yeah, I think so because they don't even have to put hashtags for content to go out. Yeah, they don't have to look for the followers. They put out content and the content finds the people who would be interested in it. So yeah, I think it's really effective for that [educating].' (P6, I)

TikTok's FYP and Algorithm: Negatives

Participants also described how TikTok's FYP and algorithm can hinder learning for some users. Whilst many participants expressed seeing a lot of LGBTQ+ content on their FYPs and thus effortlessly learning in this way, some participants expressed a lack of LGBTQ+ on their FYPs, which limits their learning. Instead, some described actively searching for LGBTQ+ content on TikTok in the 'Discover' page of the app.

'I search for it, 'cause occasionally that's one of the things that gets knocked out by the algorithm. Like a lot of what I

watch is like LGBTQ+ stuff. And that's the thing that goes off my For You page and isn't there and gets replaced by something random... I have to search for it quite a lot of the time because it just doesn't come up.' (P4, I)

Thus, participants describe that LGBTQ+ content is still accessible, however not as much as they would like. As other participants had mentioned in their own experiences, they wished for the content to come to them and allow for more low effort consumption and thus learning.

'Because again from my experience, you have to actively use the hashtag in order to find these videos. So it's accessible, but not enough.' (P8, I)

'I think the way the algorithm works at the moment doesn't help... And I think that it does definitely get in the way sometimes. Rather than just like scrolling through and absorbing it, which is kind of how you'd hope.' (P4, I)

One participant describes being surprised at the difference between the content on their FYP and the content on that of a friend's. In particular, they noted the lack of LGBTQ+ content on their friend's page. Participants commented how the educational value that TikTok holds in the context of LGBTQ+ topics will vary greatly from user to user.

'However, I think it will pop up, like LGBT content, if you are already interested in it, because I know I go on my friends' For You pages sometimes and they don't have it and I thought everyone had the same content and apparently not. And the thing is like, uh, I'm on like kind of, you know liberal gay TikTok but a lot of people, if their interests are very different, than their TikTok will look very different and they won't necessarily... They yeah, they won't necessarily learn anything... And so it can be very educational, but it depends what you see.' (P6, I)

Thus, participants expressed that those users who may benefit or learn the most from LGBTQ+ content on TikTok may not see any on their FYP. Instead, participants speculated that content may only come up on the FYPs of those users who are already interested and relatively educated on many of these topics.

'And I suppose it's kind of a catch 22 situation where if you don't know much or interact much with those topics, then the algorithm probably isn't going to show you more of that. And then you know, maybe that doesn't help very much in that way, but for people like me, I think, yeah, you know, I do get more of an insight pretty much every time I go on.' (P2, I)

Interestingly, one participant considered whether TikTok has a responsibility to be educating their users. They speculated about the benefits of TikTok making a conscious effort to push LGBTQ+ content onto all user's FYPs, in order for the content to reach those users who may be the least knowledgeable about LGBTQ+ topics.

'I don't know how good it would be at you know, just kind of randomly distributing their videos to up to people... Yeah, but it's also like TikTok doesn't have a responsibility to like educate people, but it's almost like maybe they should. Maybe they should choose important, you know social topics and be like well, we're gonna prioritise these to go on people's For You pages. I don't know. It would be interesting to see if they could. I don't know how to do it, but you know and then you're on far-right TikTok and bang you've got like non-binary TikTok on your For You page.' (P3, I)

However, they considered that the cost of this would be the disruption of the safe space that many users feel that TikTok's algorithm creates for LGBTQ+ users, as by only pushing their content to the FYPs of those who are interested in LGBTQ+ topics, their content does not reach those who may react negatively towards them on the platform.

'But then I guess it could also be dangerous because you're exposed to people that you don't want to interact with, like as I was saying, like how people feel like they have their community or whatever. And you know their followers and people that view their videos like, well, you know they feel like safe with them watching it and then like exposing them to people that would definitely react negatively may be a bad thing.' (P3, I)

Video Format, Stitch and Duet Features

Participants described how TikTok's short form video format makes content surrounding LGBTQ+ topics easier to engage with and thus learn from than similar content shared on other platforms which is more text-based.

'So I think yes [TikTok is good for learning] and I think that are a few reasons for that... The video aspect of it makes it a lot easier to engage with than say, just a random shared post on Instagram. You know when people like post things on their stories and like it's a lot easier to like actually listen to someone and hear them explain that.' (P1, I)

Furthermore, participants described how TikTok's video format makes it easier to engage with content and thus learn about LGBTQ+ topics. They also described how TikTok's video format makes it easier to engage in discussions around LGBTQ+ topics, for example by allowing creators to reply to comments on their video with a video response.

'And I think that having the sort of videos and usually a voiceover, it makes them a lot easier, I think to engage with and a lot easier to like see and look at rather than just scrolling past, as you would on other platforms.' (P1, I)

'And most of the time, when people post like educational TikToks, content creators tend to reply to them or do another video replying to their questions.' (P1, I)

Participants also described that TikTok makes it easy to see the video responses to comments by adding a link which

takes users directly to the video response. This allows users to see if a question that they have has been given a video response.

'From my experience people like content creators will also reply in the comments about things and if the same questions being asked many times, they'll make a video response to it, and they are usually easier to find like if you're reading through the comments, you can find the video responses.' (P1, I)

Participants described how this feature brings closer content creators as educators and other users as students and makes interactions feel more personal.

'So that level of engagement between sort of the educator as the content creator and the student as the viewer becomes more intimate, like the relationship between the two of them.' (P1, I)

Furthermore, participants described how the 'stitch' and 'duet' features also allow TikTok users to engage in discussions or give responses to content in a way which is unique to the platform. Participants described how users will often utilise these features to add to a point made in a video, or to propose an alternative opinion to the one given in the original post. Thus, these features promote discussions between users and allow for collaborative content creation which can be educational for other users.

'But like in terms of the stitch feature or the duet feature I think you know if someone has a controversial opinion or you know someone said something the other person really agrees and can add to that to what they're saying. I think that's quite heavily used as a feature like either saying whatever this person has said is like a load of rubbish, like this is why, or like this is a dangerous opinion or you know someone talking about a certain thing and then the other person says like oh, I've had a similar experience where like I wanna add to this.' (P3, I)

4.4 Relating to LGBTQ+ Content and Identity Work

Participants described how TikTok is a platform that LGBTQ+ individuals can use to connect to the LGBTQ+ community and other individuals who they can relate to. Thus, participants expressed how they viewed TikTok as a beneficial platform for users to explore and learn about their own identity.

Connecting to the LGBTQ+ Community

Participants described how TikTok connects LGBTQ+ users to the LGBTQ+ community. Some participants described how TikTok was the only way they could access and connect with others in the LGBTQ+ community. One participant described feeling grateful for TikTok for allowing them this connection.

'Well, I don't know, I just I really like the platform for that because I don't think I'd be able to be in touch with that community [LGBTQ+] or get access to it without it. So yeah, I really appreciate TikTok for that.' (P6, I)

Similarly, another participant described how TikTok provides a space to connect with others in the LGBTQ+ community as an alternative to traditional LGBTQ+ spaces which many individuals may not have access to for various reasons. Thus, TikTok provides a more accessible space to connect with other LGBTQ+ individuals and explore one's identity.

'I do think much of the reason why queer people don't explore their identity can be due to their home situation or due to like experiences or parents or whatever, but by having a platform that is on your phone, like everyone has TikTok, your parents won't know what TikToks you're looking at. And then not having to go to conventional queer spaces, which tend to be bars or clubs, which have been closed for so long, and also younger people can't really go to. It's quite nice to have that sort of platform where people can sort of get to know themselves a bit more.' (P1, I)

Finally, participants described how members of the LGBTQ+ community formed their own communities and friendships on TikTok.

'You could find any kind of person on there, so it's good to find people that you might relate to, especially if like you... If in your life there aren't, you know people that you think would understand or whatever... I feel like a lot of people probably find a community on TikTok, or like I don't interact with anyone on TikTok, but I think people really make friends through it and find likeminded people.' (P3, I)

Relating to LGBTQ+ Content

Participants described how using TikTok gives themselves and other users the opportunity to see and relate to others in the LGBTQ+ community. In particular, these may be people who they have not had the opportunity to meet in their own lives. Thus, TikTok can provide a feeling of relatedness or belonging that some users may not have experienced previously.

'I've seen that TikTok has helped people many times that feel maybe, they don't feel identified in a place, they don't feel they belong to any place, and by seeing people just as normal as they are on the other side of the screen, facing the same things, feeling the same way, they can feel really related to. So I do think it helps a lot to educate and learn.' (P5, I)

'The TikTok [I saw] with a girl joking about how confused she was about her sexuality was memorable because I feel the same.' (P6, D)

Some participants described the comforting and happy feeling that can come from being able to relate to other LGBTQ+ users on TikTok.

'Yes they made me feel happy and comfortable knowing there's other people like me, they also made me laugh and it's nice seeing relatable content' (P11, D)

'It makes me happier. I think it's good to see myself or like people like me represented and I enjoyed that. Also it's just fun and entertaining.' (P4, I)

Participants also described sharing LGBTQ+ TikTok content with their friends if they thought their friend might be able to relate to it. Participants described sharing this content for various reasons, for example as a supportive gesture or if they think the video will make them feel happy.

'I share things on WhatsApp. And sometimes I'll send my uncle a link or something if there's something really good and positive. Yeah, I'll share that. Just because I know it's something that will encourage them or make them feel like solidarity or almost or just make them feel, give them a boost and stuff you know.' (P12, I)

Finally, another reason participants described sharing content was to help or support a friend who was in the process of understanding their own identity or sexuality.

'I've got one friend who's like quietly coming to terms with the fact that she's asexual and so yeah, generally I send things to her that are like gently, like assuring her that everything is fine... But yeah, usually just kind of affirming more than anything else, or it's interesting.' (P4, I)

Identity Work

Participants described how by connecting users to the LGBTQ+ community and exposing them to content and creators who they can relate to, TikTok creates a space in which individuals who are still understanding their own identity can explore and learn more about themselves. Thus, TikTok can be used to learn in the context of LGBTQ+ topics in a different way; to engage in identity work for those who may identify as a part of the community.

'So I think the TikTok could be used really well to explore like sexuality and see like what your experiences match up with and kind of how those things correlate. And even if not, it's still good for you to see other people's like lives and I guess if you're struggling with your sexuality or your friend has come out and you want to like know more about kind of their experience, that's a really good way of doing it' (P4, I)

'Yeah, yeah, I think it could be a really useful thing because I know like. It's a difficult process and sort of not having, being in a small town where you're not really connecting with many people with the same experience, maybe it's really, really hard and to relate to people and to have that courage to even talk about it. So I think that's really vital for people, for young people especially because that's such a turbulent time in their life anyway. And then just to have to struggle with like the sexual orientation and what that means for their identity. I just feel like that could be a really supportive thing for young people' (P12, I)

One participant described how they had already come out as bisexual, and sometimes they still questioned the validity of their own identity. Thus, they reported watching TikToks by bisexual content creators to reaffirm their own identity. In this way, users can learn about the validity of their own feelings and experiences.

'I watched a bunch of TikToks about being bisexual to reaffirm my sexuality - I only came out 18 months ago (and maybe 3 months ago to my family) and I still panic I'm making it up. But seeing myself reflected back by other people helps.' (P4, D)

One participant commented on a popular TikTok trend, in which users post content saying, for example, 'I thought I was having 2 weeks off of school... Now I'm a lesbian'. This trend refers to users thinking they were just going to have a few of weeks off of school due to the COVID-19 pandemic. Of course, this ended up being extended much longer than anyone had imagined. Users attribute the lockdown, spending a lot of time inside, and in particular extended internet and TikTok use, to them exploring their own identity and sexuality and learning something new about themselves, for example that they identify as lesbian.

'Because there are so many like-minded people on the platform, that even if you're not creating TikToks, but just viewing them, then you can sort of experience say like queer joy or something that you may not be able to experience in your everyday life. And I know it became a bit of a meme of people, there's like a TikTok trend where it's like 'I thought I was only getting 2 weeks off school and now I'm a lesbian'. So like I think. I think maybe that provides evidence that it is a space that helps people to sort of realise their identities.' (P1, I)

Finally, some participants described how TikTok exposes users not only to different types of LGBTQ+ identities, but also different types of LGBTQ+ experiences. One participant explains how this can help users who are still understanding their own identity to feel reassured and learn about the broad range of LGBTQ+ experiences that exist.

'I think that that kind of visibility is really, really helpful. Uhm, particularly if you're not really sure what's going on with yourself or you're questioning, or you're just a bit unsure generally in terms of like coming out to people, watching videos of like people coming out to their parents is a reaffirming experience and it sort of prepares you for the reality of that and shows you there's a range of different experiences with being queer and where your experiences will fall within a spectrum and preparing yourself for different realities and that kind of thing is, yeah, it's really helpful.' (P4, I)

4.5 TikTok as a Safe Space

Participants described how users are able to connect with the LGBTQ+ community through TikTok and engage in identity work due to the relatively safe space that TikTok creates for LGBTQ+ users.

A Private Platform

Participants described how TikTok feels more private than other social media platforms, meaning that some users may be more comfortable viewing and engaging with LGBTQ+ content on TikTok than they would be on other social media platforms. They attributed this to the fact that users don't typically interact with people who they know in real life on TikTok, and also due to users' likes being private, meaning that no other users can view what a user has liked either through their profile or through the videos themselves.

'It's quite like, it is quite a good way probably of exploring what you think about yourself like without... And you know no one would have to know. Especially as I was saying no one interacts with their friends on TikTok or no one would look at someone's TikTok likes, everyone's likes are on private or whatever so like yeah, it's quite good in that way.' (P3, I)

In particular, one participant described how on Instagram, they mostly follow people they know in real life and so they have an awareness that these people can easily see who they are following on the platform. They compared this to TikTok, which they described as feeling more private for them as they do not follow anyone they know. For this reason, they describe feeling comfortable following LGBTQ+ accounts on TikTok but not on Instagram or Facebook. Thus, TikTok is the only platform on which they see and interact with, and consequently learn from, LGBTQ+ content.

'Well yeah, I see a lot more of it [LGBTQ+ content] because. I don't know. I feel like on Instagram or Facebook I have to follow celebrities and you're used to doing that and also somehow Instagram feels more public, like people can see what I follow and people who follow me can look at all the pages I follow. And so TikTok is more of like a private thing for me. Where I feel more comfortable following [LGBTQ+] accounts that I wouldn't do on Instagram or Facebook.' (P6, I)

This participant then goes on to describe how they aren't completely comfortable with those they know in real life being able to see their interest in LGBTQ+ content on other platforms. Thus, they use TikTok to explore this content, again due to a feeling of privacy they have on the platform.

'I don't know, I mean. I feel like because sometimes being interested or being part of LGBT culture it's a bit. I mean, there's still taboos or like you don't want people to know this, or you don't want this to come out. Yeah, you don't necessarily, uh, yeah, it [TikTok] just feels safer.' (P6, I)

A Safe Space

Participants described how TikTok feels like a safe space for LGBTQ+ users; both for those who create content, as well as for those who only consume content. Participants described how this makes TikTok a good platform for learning about LGBTQ+ topics, because LGBTQ+ users feel comfortable posting on the platform, and other users feel comfortable engaging with such content.

'I think the areas of TikTok I am on definitely do [feel safe]. I reckon there's definitely a section of it, but I'm not part of that, that probably isn't a safe. But yeah, the section I'm on I feel really comfortable in and like I think feels like a safe space.' (P4, I)

One reason participants attributed this to was TikTok's use of its algorithm and FYP. Participants described how the algorithm means that LGBTQ+ is unlikely to be shown on the FYPs of those who may not be supportive of the community, and who may respond negatively to their content.

'I also think that for many queer people, their content won't tend to show up on the For You pages of people who would potentially do harm to them, say verbally. Unless those aggressors go searching for it. And so I think that's one of the reasons why there's an abundance of queer content on TikTok and so as a result of that, and I'd say that that's one reason for it being a good platform for learning.' (P1, I)

Participants also compared this to other social media platforms, such as Instagram, which they felt created less of a safe space for LGBTQ+ users.

'I do think it is because of the algorithm, well, it's just the algorithm makes it such that it's unlikely for their content to come on like say a Nazi's page, whereas on Instagram, like the things that come up on the Explore page, usually quite like odd, quite like random things, and so it could come up on there.' (P1, I)

Instead, participants described how they expected that most LGBTQ+ videos on TikTok would be met with overwhelming support from other users, again attributing this to TikTok's algorithm. Participants described how this support would likely encourage users to create and share informative videos surrounding LGBTQ+ topics.

'Because of the algorithm they're probably going to be met with support as a result of the content that they're creating. So I think that this helps with the encouragement of people to make educational videos.' (P1, I)

As well as the algorithm, participants also attributed this to TikTok's particularly young user base compared to those of other social media platforms. Participants described how this younger audience on TikTok are more likely to be tolerant and receptive to LGBTQ+ content, and so in this way TikTok is a safer space than other social media platforms for those in the LGBTQ+ community.

'There will obviously be a percentage of those comments that are like hateful... But I think may be less so with TikTok, 'cause I think it's very much like a Gen Z, like a kind of millennial thing. Umm, so on Twitter there's definitely like old men. I mean obviously a range of people use TikTok. But I think if some of these people created the exact same content on Facebook they would get horrible comments. Whereas I think it's less so purely because of the demographic that uses TikTok. Yeah, so in that case it is a safer space, because I'd just say a much more percentage of our generation are going to be tolerant towards that kind of content.' (P3, I)

Finally, following on from this, participants described TikTok as having a friendlier community than other social media platforms, a community which is more receptive to seeing LGBTQ+ content and content by LGBTQ+ creators.

'Yeah, definitely. I think so [TikTok is a good platform for educating]. Yeah, I think like it seems like more of a friendlier community as well. Uhm, in terms of like sharing content.' (P9, I)

A False Sense of Security

Although participants generally viewed TikTok as a safe space for LGBTQ+ creators and users, some participants also acknowledged that TikTok may not always be the safe space that users perceive it to be. For example, one participant discussed how some users may be lured into feeling a false sense of security on the platform, forgetting that TikTok is still very much a public platform in the same way that other social media sites are too.

'But also I think people might forget that is very public. So you could probably get lulled into a false sense of security, like obviously if everyone in your comments is really nice and stuff blah blah, then you forget that it is a public platform and anyone could find it... It would seem like quite like a community kind of vibe, even though it's really not, which is good and bad. I do think people get lulled into false sense of security thinking they can say whatever they want and that people that they know in real life aren't going to find it. But yeah it doesn't work like that.' (P3, I)

Furthermore, some participants also commented on seeing or worrying about seeing hateful and discriminatory comments under the videos of LGBTQ+ creators on TikTok.

'Sometimes when I see those posts I don't look at the comments, 'cause I'm really worried that I'm going to see things that I don't like, I worry sometimes that maybe it can draw some negative feedback.' (P12, I)

One participant considered how social media sites, such as TikTok, should be taking more responsibility in protecting its users from hate and abuse on their platforms.

'Just why aren't the social media companies doing something about it because it's just appalling, but they're

allowed to have that platform to destroy people and pick them apart. You know, just 'cause they're trying to say something.' (P12, I)

Finally, although participants acknowledged the harmful comments present on the platform, they considered this to be an issue for social media in general, rather than an issue specific to TikTok. Additionally, some participants considered this to be less so compared to other social media platforms, due to TikTok's particularly young user base, as mentioned previously.

'But then obviously I'm assuming like a there will obviously be a percentage of those comments that are like hateful just because there are those kind of people on TikTok. But then I think that's the case with any social media. It's not kind of like a TikTok thing. But I think may be less so with TikTok, 'cause I think it's very much like a Gen Z, like a kind of millennial thing.' (P3, I)

5. DISCUSSION

The aim of this study was to explore how TikTok can act as an informal learning environment in the context of LGBTQ+ topics. Overall, the findings of this study revealed that TikTok can act as an informal learning environment in this context in two ways; users can learn about LGBTQ+ topics which are unrelated to themselves, and they can learn about LGBTQ+ topics which they do relate to, thus engaging in identity work. Participants described how TikTok's technical affordances, content creators and context of use make this learning experience a unique one. Participants also acknowledged how these affordances could be both beneficial and detrimental to learning about LGBTQ+ topics in different ways.

5.1 Learning Through Personal Experiences

Participants discussed learning about a broad range of LGBTQ+ topics, most notably gender, which were unrelated to themselves through TikTok. The overarching theme here was that participants learnt about these topics mostly through LGBTQ+ TikTok users sharing their experiences and making their identities visible. This is a novel finding which highlights a different way in which learning through TikTok can take place; previous research exploring learning around social topics and issues through TikTok has only focused on more explicit activism content on the platform [14, 15, 16]. Participants rarely described engaging with explicitly educational or activism content relating to LGBTQ+ topics on TikTok, instead describing this more implicit form education and learning. It can be argued that LGBTQ+ users sharing in this way on TikTok is a unique form of digital activism, if you view the personal as being political [26].

Two levels of learning were evident; a higher level learning where participants learnt about the others' experiences, and a deeper level learning where participants described a shift of their mindsets, for example a feeling of greater acceptance or understanding the LGBTQ+ community. This finding is in line with research which has found that exposure to

LGBTQ+ individuals through media such as television can positively impact attitudes towards the LGBTQ+ community [27], although this has not been investigated in the context of social media. Future work could focus on exploring the relationship between social media or TikTok use and acceptance of the LGBTQ+ community.

If one does view LGBTQ+ user making their identities visible and sharing their experiences on TikTok as digital activism, these findings challenge the concept of slacktivism. Slacktivism is a negative expression which describes activism activities which involve little effort or commitment and do little to help achieve political or social goals; the term is often used to refer to digital activism [28]. It can be argued that although the digital activism described in the findings does not elicit immediate action in relation to political or social goals, there is great value in individuals becoming more aware of the experiences of the LGBTQ+ community, and that a shifting of mindsets in this way could help the move towards a more understanding and accepting society which in could help in the long term to achieve such goals.

Key to this learning was TikTok exposing participants to members of the LGBTQ+ community of identities or demographics who they had not had the opportunity to meet in their own lives. Participants described this exposure to be much greater through TikTok because TikTok users tend to view and interact with the content of strangers, to which they are exposed to through the FYP. Meanwhile, other platforms are used to connect with people the user knows, and so exposure to new LGBTQ+ identities or demographics is less likely. Due to this exposure, participants described learning about intersectionality in relation to the LGBTQ+ community, which focuses on the interrelations of power in social identities and structures [29].

This representation and learning around intersectionality through social media is important because mainstream LGBTQ+ rights activism and media has often excluded the voices of marginalised groups, for example people of colour [30]. Social media websites have been and continue to be important for giving marginalised LGBTQ+ communities visibility and a platform to be heard and to highlight the specific issues marginalised LGBTQ+ communities face, for example violence against LGBTQ+ people of colour [31]. Although not yet discussed in the context of TikTok, the findings indicate that the opportunity to give visibility to marginalised LGBTQ+ individuals could be particularly powerful on TikTok, as the FYP means that it is easier than on other platforms for any user to reach a large audience. It must also be considered however how this increased visibility can increase exposure to dangers such as harassment and trolling, to which those from marginalised LGBTQ+ communities may be of heightened risk [31].

Although participants reported seeing and thus learning about a range of different LGBTQ+ identities and experiences on TikTok's FYP, this contrasts with previous findings where LGBTQ+ TikTok users perceived TikTok to

suppress the content of some LGBTQ+ identities and demographics, such as LGBTQ+ people of colour [13]; many of these users felt that their own identities were not being properly represented on the FYP. One explanation for this difference could be due to many participants here not identifying as LGBTQ+, whereas all participants in the previous study did. So, some participants of this study may not have been as sensitive to issues of representation, or the intricacies of different LGBTQ+ identities. If it is the case that TikTok suppresses the content of certain LGBTQ+ identities, this would diminish TikTok's power in giving a platform to everyone and facilitating learning around intersectionality.

5.2 Video Features Enhancing Learning

Participants described how TikTok's short-form video format made creating, engaging with, and thus learning from LGBTQ+ related content easier than on other text- or image-based social media platforms. Participants described learning through short videos to be more engaging and less effortful than reading long text posts, for example. This is a novel finding, suggesting that different social media platforms may hold different values as informal learning environments depending on their technical affordances and format; something which could be explored in future work.

Participants described how TikTok's 'stitch' and 'duet' features allowed collaborative content creation, enabling discussions [10] and thus learning around LGBTQ+ topics. These features allow users to give a direct response to another user, where they may have something further to add on a topic, or alternatively may disagree with what was being said. Participants described how these features allowed users to engage more effectively and openly in discussions about LGBTQ+ topics than on other platforms on which such collaborative content creation is not possible. This is a similar finding to that of Serrano et al. [14] who found that political discussions on TikTok are more interactive than on other platforms, due to users being able to combine multiple communication channels. Participants described how these features made discussions around LGBTQ+ topics feel more intimate, in line with another of Serrano et al.'s [14] findings that interactions using the 'duet' feature feel more personal than interactions on other social media platforms as they draw similarities with face-to-face interactions than with interactions through written comments under posts.

5.3 TikTok Pushing and Suppressing LGBTQ+ Learning

Participants discussed how TikTok's FYP and algorithm is beneficial for individuals who want to educate others on LGBTQ+ topics, as they allow any user to potentially reach a large audience. Participants compared this to other social media platforms on which to reach a large audience a user would typically need to build up a large following first. This finding is in line with the findings of the reviewed literature exploring activism on TikTok, which found that TikTok provides activists with increased visibility through its FYP, algorithm and hashtags [15, 16].

Participants also described how TikTok's FYP and algorithm could be both beneficial and detrimental to learning through TikTok. Participants commented on the uniqueness of having no control over the content on their main feed [10], describing how this lack of control over the content they see, and the algorithm which instead controls this content, could both help and hinder learning about LGBTQ+ topics for different users; a novel finding.

For many participants, the FYP and algorithm promoted learning about LGBTQ+ topics by presenting them with a high level of LGBTQ+ content, thus giving them a low-effort learning experience. This was compared to more effortful learning through books or other social media platforms which requires actively searching for information. This is another novel finding, highlighting again how different social media platforms may have different values as informal learning environments depending on their technical affordances. This finding also highlights more broadly how artificial intelligence can facilitate and bring ease to different tasks; in this case, although unintentional, learning.

There did however appear a split experiences here. Other participants commented on a lack of LGBTQ+ content on their FYPs and so some described actively searching for it. These participants wished for the low-effort consumption of LGBTQ+ content, and thus learning, that other participants described. Although all participants were recruited based on having an interest in LGBTQ+ topics this was not something that was measured, and so this may have been to differing degrees. Thus, or alternatively, participants' engagement with LGBTQ+ content on TikTok may have varied greatly, although some participants did describe actively searching for LGBTQ+ content instead. Overall, the reason for the differences in experiences were not apparent in the findings.

Participants speculated that because of TikTok's algorithm basing a user's feed on their activity on the app [11], the users who will most likely see and learn from LGBTQ+ content on their FYP will be those who already have an interest in LGBTQ+ topics. Thus, those who may benefit most from the opportunity to learn about LGBTQ+ topics through TikTok, for example those with little knowledge or interest, or those who are intolerant of the LGBTQ+ community, may see little or no LGBTQ+ content on their FYPs. So, TikTok's capacity as an informal learning environment for LGBTQ+ topics may be limited due to the algorithm.

These findings highlight the echo-chamber effect that TikTok's algorithm creates on a user's FYP. This term describes how social media platforms can limit a user's exposure to diverse perspectives, instead creating groups of like-minded users building a shared narrative online [32]. On other social media platforms, this tends to occur due to users mostly following friends, family, and those of a similar demographic or of similar views [32]. Although it may initially appear that TikTok users can avoid this echo-chamber due to their main page being the content of strangers, most of whom they don't follow, the echo-

chamber may be created in a different way through the algorithm.

The question can be raised as to whether the echo-chamber effect on TikTok could polarise users more when it comes to acceptance of the LGBTQ+ community. Research has found the echo-chamber effect on social media to further polarise the views of different groups, for example the left- and right-wing [33]. Although not investigated in the context of TikTok or attitudes towards the LGBTQ+ community, one can imagine how users who are intolerant or discriminatory towards the LGBTQ+ community may be fed more hateful content in-line with these views through TikTok's algorithm, thus further promoting these views.

This possibility highlights the power that TikTok's algorithm has to do harm. The use of TikTok to spread hateful content has been explored by Weimann and Masri [34] who found a disturbing presence of far-right extremist content on the platform. When considering the algorithm, they also expressed concern that users who unintentionally viewed extremist content due to it appearing on their FYP would then be more likely to see more of this content. Although the current study has highlighted how the low-effort content consumption that TikTok's FYP allows can be a positive thing, Weimann and Masri's [34] findings highlight how this same affordance could also expose users to harmful content that they may not have come across or sought out on other platforms. Although the participants of this study did not report seeing harmful or discriminatory content in relation to the LGBTQ+ community on TikTok, this is something that should be considered a concern, especially considering how young and thus impressionable the typical TikTok user is [34].

Whilst these findings highlight how TikTok's algorithm can suppress LGBTQ+ learning for some users, or even promote harmful content in relation to the LGBTQ+ community, they do also highlight the good these affordances can still do. Many participants described learning a lot about LGBTQ+ topics through TikTok. This applied to those who were already knowledgeable, as well as those who were perhaps open-minded, but not as knowledgeable for some reason. Thus, although an echo-chamber for many users, TikTok still appears to hold great value for educating and learning about LGBTQ+ topics.

5.4 Identity Work: Learning About Oneself

The second form of learning through hearing personal experiences on TikTok is one which allows LGBTQ+ TikTok users to engage in identity work. Identity work is a process through which individuals form, repair, maintain, strengthen, or revise their identities [35]; the LGBTQ+ community often use social media platforms to engage in identity work [7]. Participants described how TikTok enables engaging in identity work by allowing users to learn about and understand aspects of their own identity and sexuality. This is in line with the findings of Simpson and Seamann [13], whose participants described seeing and interacting

with other LGBTQ+ users on TikTok, which enabled them to engage in identity work and learn about and embrace their own identities.

This learning was again attributed to TikTok exposing users to other LGBTQ+ individuals they may not have had the opportunity to meet in their lives. Key here was that users could see and interact with LGBTQ+ content and users with which or whom they could relate to. This is again similar to Simpson and Seamann's [13] findings, where participants reported finding and interacting with LGBTQ+ individuals on TikTok who were similar to them in order to engage in identity work. Representations of different LGBTQ+ identities on social media platforms such as TikTok are highly important considering that many identities remain invisible in mainstream media [36]. Participants emphasised the importance of this feeling of relatability and representation for wellbeing, in line with previous work which has found social media use to positively impact LGBTQ+ individuals' wellbeing by allowing them to access emotional support, develop their identities, and find information through seeing and interacting with those who are similar to themselves [37]. The findings here highlight how important online peer support can be for individuals in the LGBTQ+ community.

Thus, participants described how TikTok is a place for members of the LGBTQ+ community to come together and connect. TikTok is also a space which is more accessible than traditional LGBTQ+ spaces such as bars and clubs, which have been closed during the pandemic and which many members of the LGBTQ+ community cannot access. So, TikTok allows these people to connect with the community and engage in identity work. This finding highlights ubiquity as an key affordance here of social media websites such as TikTok, although it is important to recognise that everyone still does not have equal access to such spaces, due to issues relating to digital literacy, accessibility and economic reasons [31].

5.5 TikTok as a Safe Space for LGBTQ+ Individuals

Participants attributed users being able to learn about themselves and engage in identity work to TikTok's affordances creating a relatively safe space in which LGBTQ+ users feel comfortable expressing themselves, sharing content, and engaging with this content. This finding is in line with the previous work of Simpson and Seamann [13] and Afsheen and Ahmed [17] whose LGBTQ+ participants described TikTok as a safe space on which they can express themselves freely.

TikTok's affordances create this safe space in various ways. One novel finding was that participants viewed TikTok as more private than other social media platforms as they follow and interact with people they knew very little or not at all on the platform. This means that people in their lives cannot look at who they are following. Furthermore, they described how other users cannot see which videos a user has liked. This sense of privacy also gives users a feeling of anonymity,

and meant some participants felt more comfortable engaging with LGBTQ+ content on TikTok than on other platforms which they perceived as less private, making it the better platform for them to learn and engage in identity work. In line with research which has found that anonymity is a key motivator for LGBTQ+ individuals using online technologies to seek information and engage in identity work [38], this finding highlights how the ability to remain anonymous and maintain privacy is an affordance of social media platforms, and especially TikTok, which allows LGBTQ+ individuals to fully engage in identity work.

Whilst the echo-chamber effect TikTok's algorithm creates has previously been discussed as a limitation to learning for some users, participants also described how this same effect helped to create the safe space for LGBTQ+ users to engage in identity work. Firstly, the algorithm means that as LGBTQ+ users engage with LGBTQ+ content, they will see more and more similar content on their FYPs, thus becoming more embedded within the LGBTQ+ community on TikTok. Secondly, because this LGBTQ+ content is less likely to be pushed to the FYPs of users who are intolerant towards the LGBTQ+ community, these users are less likely to come across this content and leave hateful comments. This finding is akin to those of Simpson and Seamann [13] and Afsheen and Ahmed [17] whose participants also described the algorithm creating a safe space for LGBTQ+ users in this way.

So, participants described how LGBTQ+ users often shared large amounts of their lives online in great detail. Although participants commented how this promoted learning and relatability, some expressed concerns about how much personal information some users shared on the platform. Participants described how some users could forget that TikTok is not a private but a public platform like any other. This highlights another broader HCI issue concerning social media users putting personal information into the public sphere. Privacy is a major concern when it comes to online social networks [39], with concerns surrounding who can view one's private information, other users sharing information about an individual and data retention issues, to name a few [40]. These concerns are raised further when users are children [39], making this a particular issue for TikTok considering it has a younger typical user than other social media platforms.

5.6 Pushing Education vs. A Safe Space

This study has revealed a novel finding, that the pushing and suppression of LGBTQ+ content for different users by TikTok's algorithm may be detrimental for one form of learning, and at the same time beneficial for another. Some interesting ideas were raised by participants surrounding this. One participant considered the costs and benefits of TikTok actively trying to educate all users by pushing LGBTQ+ content onto the FYPs of those users for which it would not typically appear. Although it can be argued that TikTok does

not have any responsibility to be educating its users in this way, this raises an interesting HCI design challenge.

Pushing LGBTQ+ content to all could disrupt the safe space created by the algorithm for LGBTQ+ users. Thus, by trying to promote learning for uninformed or intolerant users, the learning and general experience of LGBTQ+ users on TikTok would likely suffer. Although, as mentioned, it can be argued that TikTok does not have any responsibility to educate its users, it seems without question that they have a duty to protect their users from harm, for example hateful comments. Although this is done inadvertently by the algorithm, it seems dangerous to potentially disrupt the safe space that this creates for LGBTQ+ users, especially considering how invaluable online spaces have been and continue to be for members of the LGBTQ+ community. Thus, it could be argued that a disruption of the algorithm in order to educate could do more harm than good.

If TikTok did decide to disrupt the algorithm in this way however, one solution would be to design to mitigate the hateful comments that could ensue. For example, researchers have developed machine learning models using data from multiple social media platforms which can successfully detect hateful language [41]. Such machine learning models are scalable, robust, and have increasing levels of accuracy [42]; some models have been found to have an average accuracy of up to 90% for detecting hateful language [43] although these models have not yet been tested on TikTok. However, if found to be effective, one solution would be to implement one of these models in TikTok's software and use it to prevent hateful comments from being posted. Here, hateful comments should be detected as a user types them out; TikTok could then immediately prevent such comments from being posted, rather than waiting for them to be detected or reported after being posted.

There are concerns around this solution however, and any implementation of such models would need to be carefully considered. First, there are concerns that such models can cause unintended harms, such as the silencing of marginalised and under-represented groups [44]; for example, these models have been found to have higher rates of false positive errors for texts where certain groups of people are mentioned [45] and for when texts included African American English phrases [46]. This highlights the need for rigorous training using inclusive datasets for such models if they are to avoid damaging biases, which can also be viewed as a much broader HCI issue when considering the use and implementation artificial intelligence.

Secondly is whether pushing LGBTQ+ content in this way would even be effective for educating users and changing mindsets towards the LGBTQ+ community. Previous research has found that purposefully exposing social media users to diverse viewpoints does not bridge the gap between polarised groups in regard to their world views and opinions [47], suggesting that this approach may not be an effective one. However, this study only focused on link-sharing. As

participants described the benefits of learning through hearing personal accounts on TikTok through short videos, it could be possible that exposure to this personal type of content could have a different impact on viewpoints and is something that should be investigated in future work.

5.7 Limitations and Future Work

Whilst this research has revealed some interesting novel findings, there were some limitations to the method. One significant limitation was that it was not possible to recruit participants based on their sexuality or gender identity, nor to ask participants questions regarding or relation to their sexuality or gender identity. This was because this was not permitted in the study's ethical approval, and it limited some of the insights which could be gained. Findings such as those surrounding identity work were only possible when this was information freely offered by participants. If interesting topics came up during interviews which related to a participant's own sexuality or gender identity, this could not be explored further by the interviewer. This meant that the discussions that surrounded these topics were not as in depth as the researcher would have liked.

Future work with ethical approval to recruit based on and ask questions about participants' sexuality and gender identity could investigate various findings of the current study in more depth. For example, work could focus specifically on the learning experience of those who do not identify as part of the LGBTQ+ community, or on the experiences of learning and also engaging in identity work for individuals who do. When considering the latter, work could also focus on the experiences of using and learning through TikTok for different members of the LGBTQ+ community, for example those of different sexualities or gender identities, of different demographics, for example different nationalities or ethnicities, or of those who may be at varying stages of understanding their own sexuality or gender identity.

Another limitation was that some participants did not see much LGBTQ+ content on TikTok, either generally, or during the 10-day diary study. Thus, for some participants there was limited data collected about seeing LGBTQ+ content and learning about LGBTQ+ topics through TikTok. Although there was still a significant amount of valuable data collected, the researcher feels as though there was the potential here for more to have been collected. One reason for this may be that participants were recruited on the basis of having 'an interest in learning about LGBTQ+ topics'. However, it appears that this may have been to varying degrees, and a small number of participants had little previous experience with seeing LGBTQ+ content on TikTok. This did however mean that the differing experiences of TikTok users could be explored more broadly, potentially giving a more holistic view of experiences. Future work could perhaps recruit those who regularly engage with LGBTQ+ content on TikTok. Alternatively, a study which follows users who do not typically see LGBTQ+ content on TikTok but exposes them

to such content could also yield some interesting findings about learning processes here.

There are a few other areas of interest for future work not yet mentioned. For example, whilst participants were asked about whether they created any content relating to LGBTQ+ topics in their diaries and interviews, none did, and so the experience of being the 'educator' in this way was not explored in the current study. Future work could explore the experiences of LGBTQ+ TikTok content creators. This could be the experiences of those who use the platform to share explicitly educational or activism content, but should also include those who simply share their lives and make their identities visible on TikTok.

The next area for exploration is the comparison of TikTok and other social media platforms as an informal learning environments in the context of LGBTQ+. This could include popular social networking platforms mentioned by the participants of the current study, such as Instagram, Twitter and YouTube. The current study highlighted the uniqueness of TikTok as a platform more generally, as well as in the context of learning about LGBTQ+ topics, and the participants drew some interesting comparisons to other platforms. This would be an interesting area to explore further. Work here could focus on the general experience of learning or educating, or the techniques used to educate through different platforms, for example.

Finally, future work should explore further possible design solutions which could allow for social media users to be educated for example through the disruption of their echo-chamber, whilst also preventing hateful and harmful comments. This could be considered in the context of TikTok, or more broadly for different social media platforms. Such solutions could hold real value in allowing social media platforms to be used as a tool to educate and engage in activism, as well as for safeguarding social media users.

6. CONCLUSION

The aim of this study was to investigate how TikTok can act as an informal learning environment for its users in the context of LGBTQ+ topics. The findings from the diary study and subsequent interviews revealed two main forms of learning here; learning about LGBTQ+ topics unrelated to oneself and learning about LGBTQ+ topics which one could relate to, thus facilitating engaging in identity work. The findings how TikTok's uniqueness as a platform, including its context of use, its users who create content, and its technical affordances, make it a valuable platform for learning about LGBTQ+ topics, also making this experience unique to that on any other social media platform. One key finding here was the ways in which TikTok's FYP and algorithm can both promote and suppress learning for different users in different ways. Overall, it may seem that the two forms of learning are at odds in some ways. Many of these findings are novel and contribute to the currently limited literature on TikTok as a relatively new platform, as

well on social media platforms as informal learning environments. The findings also raise some interesting HCI topics and pose some interesting design challenges.

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APPENDIX 1: DIARY STUDY PROMPTS

1. Please enter your participant number
2. Please enter today's date
3. Did you use TikTok today?
 - Yes
 - No
4. Approximately how long did you spend on TikTok today?
5. What device did you use to access TikTok?
6. Was it easy to navigate TikTok and find content that was interesting to you?
 - Yes
 - No
7. Where were you when you were using TikTok today?
8. Did you watch TikTok alone, or with others? If with others, who?
9. Did you watch any TikToks about or relating to LGBTQ+ topics today? (These can be any TikToks with themes which relate to the LGBTQ+ community)
 - Yes
 - No
10. What type of TikTok videos relating to LGBTQ+ topics did you see? What were the topics of these TikToks? Please provide as much detail as possible.
11. Did the TikToks you watched today relating to LGBTQ+ topics use any particular TikTok techniques? Select all that apply.
 - Duet
 - Stitch
 - Hashtags
 - TikTok dance
 - Music
 - Sound from another TikTok video
 - None
 - Can't remember
12. Did you watch any particularly memorable TikToks today relating to LGBTQ+ topics? If yes, why were they memorable?
13. Did you learn anything from videos relating to LGBTQ+ topics today? If yes, what did you learn?
14. Did you interact with any videos relating to LGBTQ+ topics today? If yes, how so?
15. Did you share or discuss any TikToks relating to LGBTQ+ topics with others today? If yes, how so?
16. Did watching TikToks relating to LGBTQ+ topics influence your thoughts, mood or behaviour today? If yes, how so?
17. Did you create any content relating to LGBTQ+ topics or issues when using TikTok today?
 - Yes
 - No
18. What type of TikToks relating to LGBTQ+ topics did you create? What were the topics of these TikToks?
19. Did the TikToks you created today relating to LGBTQ+ topics use any particular TikTok techniques? Select all that apply.
 - Duet

- Stitch
- Hashtags
- TikTok dance
- Music
- Sound from another TikTok video
- None
- Can't remember

20. Why did you create and share these videos today?

21. Did others interact with any of your videos today? If yes, how so?

22. Please discuss anything not already covered that you wish to share about your TikTok use or any TikToks that you watched today

APPENDIX 2: INTERVIEW GUIDE

General TikTok Questions

1. Firstly, I want to ask you about your TikTok use more generally
 - a. How long have you been using TikTok for?
 - b. How much do you use TikTok?
 - c. Why do you use TikTok?
2. Is there anything that you particularly like about using TikTok or TikTok as a platform?
3. Is there anything that you particularly dislike about TikTok?
4. Why do you think TikTok has become so popular in the last couple of years?
5. Aside from TikTok, which other social media and video platforms do you regularly engage with?
6. Thinking about TikTok compared to other the social media and video platforms that you use, how does it compare:
 - a. In terms of the content you see?
 - b. In the way you interact with the platform?
 - c. In terms of the people you follow?
 - d. In terms of why you use it?
7. TikTok is known for its use of an algorithm to curate your feed. What has your experience been like with this algorithm?
 - a. Do you feel that the algorithm understands the type of person you are and your interests?
 - b. How has your feed changed from when you first started using TikTok?
8. Do you ever create your own TikTok videos?
 - a. What type of TikToks do you create?
 - b. Why do you create these TikToks?
 - c. How does this compare to the content you post on other platforms?
9. Do you think that TikTok is addictive for its users? If yes, why so?
10. Do you feel that you have learnt much generally from using TikTok? Why/why not?
 - a. How does this compare with what you have learnt from other social media platforms?
11. Do you think that TikTok is a good platform for learning and education around current and social topics? Why/why not?
 - a. Can you compare how this happens on TikTok with other social media platforms?
12. Is there anything else that you would like to add about your experience of using TikTok as a platform?

LGBTQ+ Topics on TikTok

1. Do you see content related to the LGBTQ+ community on TikTok?
 - a. If yes, what are some of the main types of content you see?
 - b. How often do you come across this content?
 - c. Do you search for it, or does it come up on your FYP?
 - d. How do you think this compares with the LGBTQ+ content that you see on other social media and video platforms?
 - i. In terms of how much you see?
 - ii. In terms of the type of content?

2. Do you think that you have learnt much about LGBTQ+ topics or experiences from using TikTok?
 - a. If yes, what are some of the main things you have learnt?
 - b. If no, why not?
 - c. How does this compare with what you have learnt about LGBTQ+ topics and experiences from other social media and video platforms?
3. Do you think that TikTok is a good platform to use for those who want to learn about the LGBTQ+ community and topics related?
 - a. If yes, why/if no, why not?
 - b. How do you think this compares with other social media and video platforms?
4. Do you think that TikTok is a good platform to use for those who want to educate others about the LGBTQ+ community, topics related or their own experiences?
 - a. If yes, why/if no, why not?
 - b. How do you think this compares with other social media and video platforms?
5. Do you think that TikTok is a good platform to use for those in the LGBTQ+ community who for example haven't come out yet, who have recently come out or who are still understating their own identity?
 - a. If yes, why/if no, why not?
 - b. How do you think this compares with other social media and video platforms?
6. Do you think that TikTok as a platform facilitates discussions around LGBTQ+ topics for its users?
 - a. Why/why not?
 - b. How do you think this compares with other social media and video platforms?
7. Do you think that TikTok's use of an algorithm and its 'For You' page is a positive or a negative for those who those who want to educate others or learn about the LGBTQ+ community and topics related? Why?
8. Have you found that watching TikToks relating to LGBTQ+ topics has influenced your thoughts or behaviour at all? If yes, how so?
9. Have you found that watching TikToks relating to LGBTQ+ topics has influenced your mood at all? If yes, how so?
10. Do you follow or remember any particular LGBTQ+ TikTok content creators who create particularly memorable content to you?
 - a. If yes, what sort of content do they create?
 - b. Why is their content particularly memorable to you?
 - c. Do you interact with or share their content?
 - d. How does this compare to the content creators that you follow on other social media and video platforms?
11. Do you follow or remember any particular content creators on TikTok from whom you have learnt something new about topics relating to the LGBTQ+ community?
 - a. If yes, what sort of content do they create?
 - b. How did these creators convey these messages through TikTok?
 - c. Why was/is this effective?
 - d. Do you interact with or share their content?
 - e. How does this compare to the content creators that you follow on other social media and video platforms?
12. Do you feel that there is a broad representation of LGBTQ+ identities on TikTok's FYP? Why/why not?
 - a. How does this compare to the representations that you see on the main pages of other platforms?
13. Do you think that TikTok creates a safe space for LGBTQ+ creators and users? Why/why not?
14. Do you ever share or discuss with others content relating to LGBTQ+ topics that you have seen on TikTok?

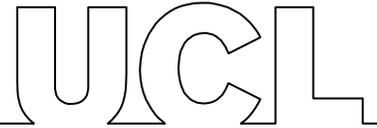
- a. If yes, what are your motivations behind sharing this content?
- b. How does this compare to the content that you share and discuss from other platforms?

15. Do you ever interact with content relating to LGBTQ+ topics that you see on TikTok? If yes, how so?

16. Is there anything else you would like to add about your experience watching content on TikTok from LGBTQ+ creators, or relating to the LGBTQ+ community?

Any Questions Referencing Diary Entries Here

DIVISION OF PSYCHOLOGY AND LANGUAGE SCIENCES



Participant Information Sheet For Health Adults in Research Studies

UCL Research Ethics Committee Approval ID Number: UCLIC_2021_006_Staff_Hermann

Data Protection Registration Number: Z6364106/2021/02/88

YOU WILL BE GIVEN A COPY OF THIS INFORMATION SHEET

Example Title of Study: Investigating information technology in formal and informal learning environments

Department: UCL Interaction Centre

Name and Contact Details of the Researcher(s):

Name and Contact Details of the Principal Researcher:

Name and Contact Details of the UCL Data Protection Officer: Alexandra Potts, data-protection@ucl.ac.uk

This study has been approved by the UCL Research Ethics Committee:

Project ID number: UCLIC_2021_006_Staff_Hermann

Data Protection Registration Number: Z6364106/2021/02/88

1. Invitation Paragraph

You are being invited to take part in a research project conducted at the UCL Interaction Centre. The purpose of the study is to understand how specific aspects of technology influence the user experience and learning experience in formal and informal contexts (e.g. formal learning platforms, or informal learning on webpages or social media platforms). Participation is voluntary, but before you decide it is important for you to understand why the research is being done and what participation will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part. Thank you for reading this.

2. What is the project's purpose?

The aim of this project is to better understand characteristics of information technology and how they can be optimised for users' experience and learning. We would like to understand how learning in formal and informal online environments affects users' engagement, learning, and retention of the material. This will be done by asking participants to report on their experience with using information technologies which could be video call tools, learning platforms, or social media platforms, amongst others. We hope the findings from this study will help inform future development and implications to help support and promote digital learning.

3. Why have I been chosen?

In order to participate you must be over 18, in good health and a UK resident.

4. Do I have to take part?

It is up to you to decide whether or not to take part. If you do decide to take part you will be given this information sheet to keep (and be asked to sign a consent form – if applicable). You can withdraw at any time without giving a reason and without it affecting any benefits that you are entitled to. If you decide to withdraw while the study is ongoing, you will be asked what you wish to happen to the data you have provided up to that point. Please note that as soon as the data collection is completed, we will anonymise your data and it won't be possible any longer to delete your data.

5. What will happen to me if I take part?

You will be asked to fill out a demographics questionnaire and questions related to your experience of using information technologies.

Diary Study

Taking part in this study will involve completing a short diary entry every day for 10 days. Each entry should take no more than 10 minutes to complete. This will document your TikTok use and any content that you watch or create about topics relating to the LGBTQ+ community.

Interview

Once completed, you will also take part in one interview with a researcher. This will last around 30 minutes. This interview will be about your TikTok use, about your experience of using TikTok, and in particular your experience of learning about and/or educating others on topics relating to the LGBTQ+ community whilst on TikTok. The interview will take place remotely over a Microsoft Teams call.

You may withdraw your participation at any time during this study if you wish. You might also be contacted to participate again in future research. Please provide your permission to be contacted again in the consent form.

6. Will I be recorded and how will the recorded media be used?

Audio and video recordings will be made during the interview which will be used for analysis. Recordings will be destroyed after the data has been transcribed and analysed. No one but the Principal Investigator and the Researchers on this project will be allowed access to the original recordings. However, they will be able to access anonymized and/or pseudonymized data. Video recordings may be used to record video interviews, and to observe your interactions with a piece of technology. Please note that as soon as the data collection is completed, we will anonymise your data and it won't be possible any longer to delete your data.

7. What are the possible disadvantages and risks of taking part?

There are no foreseeable discomforts, disadvantages and risks for taking part. However, if you do feel uncomfortable, please feel free to withdraw from the study at any time.

8. What are the possible benefits of taking part?

The information you provide us with will potentially contribute to improving characteristics of information technologies, and to better understand how people engage with environmentalism and topics of social justice.

You will be compensated for your time as consideration for providing information and for giving time to the study. You will receive a £20 Amazon voucher for taking part in this study. You will receive £1 of this voucher for each diary entry that you complete, and you will receive £10 of this voucher for completing the interview.

9. What if something goes wrong?

If you wish to make a complaint regarding your treatment by the researcher who is conducting this study, please contact Melanie Herrmann (melanie.herrmann.14@ucl.ac.uk).

Should you feel that your complaint has not been handled satisfactorily please contact the Chair of the UCL Research Ethics Committee (ethics@ucl.ac.uk).

10. Will my taking part in this project be kept confidential?

All the information that we collect about you during the course of the research will be kept strictly confidential. You will not be able to be identified in any ensuing reports or publications.

11. Limits to confidentiality

Confidentiality will be respected subject to legal constraints and professional guidelines.

12. What will happen to the results of the research project?

The results of this work will be disseminated through published research articles in journals or conferences. Anonymous quotes from the transcripts will be used and reported. Findings of interest to the general public may be published on blogging platforms such as medium.com. All the information that we collect about you during the course of the research will be kept strictly confidential. Only researchers working on this project will have access to your data. You will not be able to be identified in any ensuing reports or publications, and this includes personal data and quotes from interviews. Audio or video recordings will be transcribed and pseudonymised/anonymised as quickly as possible. During the active project, data is stored safely on a password protected device to avoid any risk of data breach, and after transcription, the recordings will be deleted.

13. Local Data Protection Privacy Notice

The data controller for this project will be University College London (UCL). The UCL Data Protection Office provides oversight of UCL activities involving the processing of personal data, and can be contacted at data-protection@ucl.ac.uk. UCL's Data Protection Officer can also be contacted at data-protection@ucl.ac.uk.

Further information on how UCL uses participant information can be found here: www.ucl.ac.uk/legal-services/privacy/participants-health-and-care-research-privacy-notice

The information that is required to be provided to participants under data protection legislation (GDPR and DPA 2018) is provided across both the 'local' and 'general' privacy notices.

The categories of personal data used will be as follows:

Personal data: Name, Age, Email address, Country of residence, Nationality, Occupation, Education Level

Special category data: Gender identity, Sexual orientation, Ethnicity, Socio-economic Background

The lawful basis that would be used to process your *personal data* will be 'performance of a task in the public interest'.

The lawful basis used to process *special category personal data* will be for scientific and historical research or statistical purposes.

Your personal data will be processed for the purposes outlined in this notice. The legal basis that would be used to process your personal data will be the provision of your consent. You can provide your consent for the use of your personal data in this project by completing the consent form that has been provided to you.

Your personal data will be processed as long as it is required for the research project.

If we are able to anonymise or pseudonymise the personal data you provide we will undertake this, and will endeavour to minimise the processing of personal data wherever possible.

If you are concerned about how your personal data is being processed, please contact UCL in the first instance at data-protection@ucl.ac.uk. If you remain unsatisfied, you may wish to contact the Information Commissioner’s Office (ICO). Contact details, and details of data subject rights, are available on the ICO website at: <https://ico.org.uk/for-organisations/data-protection-reform/overview-of-the-gdpr/individuals-rights/>

14. Contact for further information

Dr Melanie Herrmann
 UCLIC, University College London, London WC1E 6BT, United Kingdom
 melanie.herrmann.14@ucl.ac.uk

Thank you for reading this information sheet and for considering to take part in this research study.

CONSENT FORM FOR HEALTHY ADULTS IN RESEARCH STUDIES

Please complete this form after you have read the Information Sheet and/or listened to an explanation about the research.

Title of Study: Investigating information technology in formal and informal learning environments

Department: UCL Interaction Centre

Name and Contact Details of the Researcher(s):

Name and Contact Details of the Principal Researcher:

Name and Contact Details of the UCL Data Protection Officer: Alexandra Potts, data-protection@ucl.ac.uk

This study has been approved by the UCL Research Ethics Committee:

Project ID number: UCLIC_2021_006_Staff_Herrmann

Data Protection Registration Number: Z6364106/2021/02/88

Thank you for considering taking part in this research. The person organising the research must explain the project to you before you agree to take part. If you have any questions arising from the Information Sheet or explanation already given to you, please ask the researcher before you decide whether to join in. You will be given a copy of this Consent Form to keep and refer to at any time.

I confirm that I understand that by ticking/initialling each box below I am consenting to this element of the study. I understand that it will be assumed that unticked/initialled boxes means that I DO NOT consent to that part of the study. I understand that by not giving consent for any one element that I may be deemed ineligible for the study.

		Tick Box
	I confirm that I have read and understood the Information Sheet for the above study. I have had an opportunity to consider the information and what will be expected of me.	

	<p>I consent to participate in the study. I understand that my personal information will be used for the purposes explained to me. I understand that according to data protection legislation, the lawful basis that would be used to process my personal data will be ‘performance of a task in the public interest’. The lawful basis used to process special category personal data will be for scientific and historical research or statistical purposes.</p>	
	<p>Use of the information for this project only</p> <p>I understand that all personal information will remain confidential and that all efforts will be made to ensure I cannot be identified.</p> <p>I understand that my data gathered in this study will be stored safely and pseudonymised during the active research phase; once the research is completed, the data will be stored anonymously and securely and following best UCL practice after GDPR law. It will not be possible to identify me in any publications. The link between my data and my consent form will only be known to the PI and the researchers on this project during data collection. Once the study is completed, my data will be anonymously stored under a participant pseudonym label.</p>	
	<p>I understand that my information may be subject to review by responsible individuals from the University for monitoring and audit purposes.</p>	
	<p>I understand the potential risks of participating and the support that will be available to me should I become distressed during the course of the research.</p>	
	<p>I understand the direct/indirect benefits of participating.</p>	
	<p>I understand that the data will not be made available to any commercial organisations but is solely the responsibility of the researcher(s) undertaking this study.</p>	
	<p>I understand that I will not benefit financially from this study or from any possible outcome it may result in in the future.</p>	
	<p>I understand that I will be compensated for the portion of time spent in the study or fully compensated for the part of the study I register for if I choose to withdraw.</p>	
	<p>I agree that my pseudonymised research data in this study may be used by the researchers and PI future research. [No one will be able to identify you.]</p>	
	<p>I understand that the information I have submitted will be published as a report and I wish to receive a copy of it. Yes/No</p>	
	<p>I consent to my interview being audio/video recorded and understand that the recordings will be destroyed after transcription and analysis.</p>	
	<p>I hereby confirm that:</p> <p>(a) I understand the inclusion and exclusion criteria as detailed in the Information Sheet and explained to me by the researcher; and</p>	

	(a) I do not fall under the exclusion criteria.	
	I am aware of who I should contact if I wish to lodge a complaint.	
	Use of information for this project and beyond: I understand that other authenticated researchers will have access to my anonymised and pseudonymised data.	

If you would like your contact details to be retained so that you can be contacted in the future by UCL researchers who would like to invite you to participate in future studies of a similar nature, please tick the appropriate box below.

<input type="checkbox"/>	Yes, I would be happy to be contacted via email _____.	
<input type="checkbox"/>	No, I would not like to be contacted	

By participating in this study, you will be eligible for a £20 Amazon voucher. If you wish to receive the prize and to be contacted by UCL researchers, please tick the appropriate box below.

<input type="checkbox"/>	Yes, I would be happy to be contacted via email _____. (If you ticked yes above, you will not need to enter your contact details again. Simply check this box)	
<input type="checkbox"/>	No, I would not like to be contacted	

Name of participant

Date

Signature

Researcher

Date

Signature